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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
GEE, JASON KAI YIN	
ART UNIT	**PAPER NUMBER**
2434	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/772,205	BRUMME ET AL.	
	Examiner	Art Unit	
	JASON K. GEE	2434	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 June 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-6,8-14,17-22,24-29 and 32-42* is/are pending in the application.

4a) Of the above claim(s) *39 and 40* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14,11, 3-6, 8-14, 17-22, 24-29, and 32-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This action is response to communication: RCE received 06/24/2009, with acknowledgement of filing date of 02/03/2004.

2. Claims 1, 3-6, 8-14, 17-22, 24-29, and 32-42 are currently pending in this application. Claims 39-40 have been withdrawn.

3. No new IDS was received for this application.

Response to Arguments

4. Applicant's arguments filed 06/24/2009 have been fully considered but they are not persuasive.

The amendments have overcome the 102 rejection utilizing the AAPA alone, but does not overcome the combination of the AAPA along with the Muhlestein reference. The applicants have amended the independent claims to include the previous limitations of the dependent claims rejected by Muhlestein. However, Muhlestein still teaches these limitations. First, as seen in the AAPA in paragraph 4, code access security is used to prevent assemblies from performing certain operations. Muhlestein supplements this, and teaches in paragraph 44 that the code is verified and grants the permission to do what the code has asked to run. Therefore, this code is conditionally authorized based on the method's required level of trust, as the code access security prevents certain assemblies from performing certain operations based on the code itself. In addition, Muhlestein teaches in paragraph 45 that role-base security is implemented, and acts the same way as code access security, except that the

permissions are based on user identity rather than code identity. Therefore, Muhlestein teaches that calls are conditionally authorized based on a level of trust attributed to the first managed code caller. The applicants argue that Muhlestein merely teaches specifying permissions that certain code requires and does not teach conditionally authorizing the calls as Muhlestein merely teaches 'required permissions.' But again, as seen in the AAPA paragraph 4 and Muhlestein paragraphs 43-45, the combination teaches that this security authorizes the calls conditionally based on the permissions, which involve levels of trust of the code and levels of trust of the code callers.

Claim Objections

5. The previous claim objections have been withdrawn in response to applicant's arguments and amendments.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1, 3, 5, 6, 8-14, 17, 19-22, 24, 26-29, 32, 34-38, 41, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Applicant's Admitted Prior Art (hereinafter the AAPA, referring to paragraph numbers from the publication 2005/0172286), in view of Muhlestein et al. US Patent Application Publication No. 2002/0004815 (hereinafter Muhlestein).

As per claim 1, the AAPA teaches in a host of a virtual machine environment having one or more methods in a shared managed library (paragraph 3, 5, 6), a process for managing calls from a first managed code caller to a first method (paragraph 7), the process managing calls based on a hosting rule selected from a group consisting of: authorizing, by a computing device, calls from one or more of a plurality of managed code callers to the first method (paragraph 6 and 7, wherein assemblies may called by other assemblies in a shared managed library; also wherein access rights to calls are defined and limited via rules; having access rights for rules indicate that some calls would be allowed and some would not be allowed); preventing, by the computing device, calls from one or more of a plurality of managed code callers to the first method due to the first method's inappropriateness for the virtual machine environment (paragraph 7), and conditionally authorizing, by a computing device, calls from one or more of a plurality of managed code callers to the first method (paragraph 7 and 8, wherein access rights for calls should be defined and limited via rules, and to selectively disallowing certain classes of resources to hosted code).

However, the AAPA does not explicitly teach wherein the conditional allowance is based upon the first method's required level of trust and a level of trust attributed to the first managed code caller, the level of trust attributed to the first managed code caller corresponding to an identity of a provider of the first managed code caller. This may be inferred though through the AAPA in paragraph 4, wherein CAS is used to prevent assemblies from performing certain operations. This is taught more in detail in Muhl though, such as in paragraphs 43-45, in which both level of trust and a level of trust of the method and a level of trust attributed to the first code caller is used.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to combine the AAPA with the Muhlestein reference. One of ordinary skill in the art would have been motivated to perform such an addition to improve overall system safety and reliability. This is taught by Muhlestein in paragraph 43.

For the remainder of the claims, the rejection utilizing the AAPA and Muhlestein as seen in the independent claim above are incorporated herein.

As per claim 3, the AAPA teaches compiling code corresponding to the first managed code caller into native code (paragraph 4); and executing the native code corresponding to the first managed code caller while the first managed code caller is making the call to the first method native code (paragraph 4).

As per claim 5, the AAPA teaches wherein when the call from the first managed code caller is allowed, access is provided by the first said method to a protected resource (paragraphs 5 and 6).

As per claim 6, the AAPA teaches wherein any said allowed call provides any said managed code caller with access to one or more protected resources corresponding to the called said method (paragraphs 5 and 6).

As per claim 8, the AAPA teaches wherein the host compiles the first managed code caller into native code that is executed by a common language runtime (paragraphs 3 and 4). Executing a CLR via the host's' operating system is taught throughout Muhlestein, such as in paragraph 6, 30, 31, 34, and 39.

As per claim 9, the AAPA teaches configuring each said method in the shared managed library with one said hosting rule (paragraphs 5, 6, and 7).

Asd per claim 10, the AAPA teaches wherein each said method receives the configuring prior to any said call to any said method from any said managed code caller (paragraph 7).

As per claim 11, Mulestein teaches determining whether the host will use any hosting rule in authorizing a call from any one of the plurality of managed code callers to any of the one or more methods (paragraphs 43-45); and configuring one or more said methods in the shared managed library with one said hosting rule (paragraphs 43-45) when the determination is affirmative, and not configuring the one or more methods in the shared managed library with one hosting rule when the determination is negative.

As per claim 12, the AAPA teaches where each method in the sahred managed library provides access to one or more protected resources (paragraphs 3-7), and the host has access to a host configuration data structure comprising: resource checking data for making the determination (paragraphs 2-7); configuration data referencing the one or more protected resources (paragraphs 4-7) and specifying: each protected resource to which will be authorized to any one of the plurality of managed code callers (paragraphs 6-7), each proteced resource to which access be prevented to any one of the plurality of managed code callers (paragraphs 6-7), and each protected resource to which access will be authorized to any one of the plurality of managed code callers having a recognized level of trust satisfying a security permission demand corresponding to the protected resource (AAPA paragraphs 6-7 and also paragraphs 43-45 of Mulestein teaching levels of trust of managed code callers); wherein the process further comprises: accessing the host configuration data structure; and using the resource checking data in the host configuration data structure to make the determination, wherein the configuring of the one or more methods in the shared managed library with one hosting rule comprises, for each method: matching each protected resource to which the method provides access to the corresponding protected resource in teh host configuration data structure, and for each match, assigning to the method the corresponding configuration dathetaht is associated with the protected resource in the host configuration data structure (paragraphs 4-7).

As per claim 13, the Muhlestein references teaches throughout the reference a computer readable medium including machine readable instructions, such as in paragraph 20.

Claim 14 is rejected using the same basis of arguments used to reject claims 1, 5, and 6 above. As seen in Muhlestein in paragraphs 44 and 45, calls are intercepted as the code is verified before the code can be granted permissions

Claim 17 is rejected using the same basis of arguments used to reject claim 8 above.

Claim 19 is rejected using the same basis of arguments used to reject claim 11.

Claim 20, as best understood by the Examiner, is rejected using the same basis of arguments used to reject claim 12 above.

Claim 21 is rejected using the same basis of arguments used to reject claim 13 above.

Independent claim 22 is rejected using the same basis of arguments used to reject claims 1 and 13 above. Further, Muhlstein teaches providing an operating system in a native cod portion in paragraph 6. Also, Mulhstein teaches a level of trust attributed to the managed code caller in paragraphs 43-45.

Claim 24 is rejected using the same basis of arguments used to reject claim 8 above. Further, this is taught by Muhlstein in paragraphs 60 and AAPA paragraphs 4-7.

As per claim 26, the references teach wherein the managed code portion further comprises one or more files associated with user code that, when compiled into an intermediate language code and metadata generated by a laungauge compiler, are

represented by one or more of said managed code callers (paragraphs 3-6 of AAPA and also paragraphs 5 and 60 of Muhlstein.

As per claim 27, the AAPA teaches wherein the execution enginge means in the native code portion further comprises a compiler to compile each said managed code caller into native code for execution by the native code portion (paragraphs 3–5).

As per claim 28, the AAPA teaches a JIT compiler to compile each said managed code caller into native code; and a CLR loader to load the compiled native code for execution by the native code portion (paragraphs 3 and 4).

Independent claim 29 is rejected using the same basis of arguments used to reject claims 1, 14, and 22 above.

Claim 32 is rejected using the same basis of arguments used to reject claim 8 above.

Claim 34 is rejected using the same basis of arguments used to reject claim 11 above.

Claim 35 is rejected using the same basis of arguments used to reject claim 12 above.

Claim 36 is rejected using the same basis of arguments used to reject claim 26 above.

As per claim 37, the references teaches wherein the intermediate language code and metadata generated by the language compiler from one or more files each having a file type and being associated with user code (paragraphs 3-6 of AAPA and also paragraphs 5 and 60 of Muhlstein).

Claim 38 is rejected using the same basis of arguments used to reject claim 28 above.

Claim 41 is rejected using the same basis of arguments used to reject claims 1, 14, 22, and 29 above.

As per claim 42, the AAPA teaches wherein the managing calls comprises either authorizing or prevening a call from a first managed code caller to a first method based at least in part on the first method (paragraphs 7 and 8).

8. Claims 4, 18, 25, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over the AAPA and Muhlestein reference as applied above, and further in view of Muhlesten US Patent Application Publication 2002/0108102 (hereinafter Muhl '102).

As per claim 4, as best understood by the Examiner, the AAPA and the Muhlestein reference do not explicitly teach throwing an exception during the execution when the call from the first managed code caller to the first said method native is made and: the call that is never allowed; the level of trust attributed to the first managed code caller is insufficient when compared to a security permission demand assigned to and required by the first said method. However, this is taught by Muhl '102, such as in paragraphs 15, 19, 43, 62, 64, 65, 76, and 86.

At the time of the invention, it would have been obvious to combine the Muhl '102 reference with the AAPA combination. One of ordinary skill in the art would have been

motivated to perform such an addition to provide applications executing within a managed code environment easy access to instrumentation data that resides outside the managed code runtime (paragraph 11).

Claim 18 is rejected using the same basis of arguments used to reject claim 4 above.

Claim 25 is rejected using the same basis of arguments used to reject claims 4 and 18 above.

Claim 33 is rejected using the same basis of arguments used to reject claim 4 above.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON K. GEE whose telephone number is (571)272-6431. The examiner can normally be reached on M-F, 7:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kambiz Zand can be reached on (571) 272-38113811. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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